

Amendment
Serial No. 10/783,804

Docket 5000-1-526

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IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An optical subscriber network system comprising:

a server bi-directional optical transmitter including:

a multiplexer ~~to multiplex~~for multiplexing communication data and broadcast data;

a server laser diode ~~to convert~~for converting the multiplexed data into an optical signal for downstream transmission to a subscriber;

a server photo diode ~~to receive~~for receiving and converting optical signals comprising communication data from a subscriber, wherein the server bi-directional optical transmitter transmits the upstream communication data;

a first PHY device ~~to convert~~for converting the communication data received from the server photo diode into a media independent interface type ~~(MII)~~ signal; and

an Ethernet switch ~~couple~~coupled to the first PHY device, the multiplexer and ~~aa~~ second PHY device; and

a subscriber bi-directional optical receiver including:

a subscriber laser diode ~~to transmit~~for transmitting upstream communication data,

a subscriber photo diode ~~to receive~~for receiving and converting the optical signal transmitted from the server bi-directional optical transmitter into an electrical signal, and

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a demultiplexer ~~to demultiplex and divide~~ for multiplexing and dividing
the multiplexed signal into communication data and broadcast data;

wherein the optical transmitter and optical receiver are configured for transceiving
image signals and Ethernet communication signals in two directions by a single laser
diode and photo diode.

2. (Currently Amended) The optical subscriber network system as claimed in
claim 1, wherein the multiplexer and demultiplexer ~~are~~ acomprise time division
multiplexer (TDM) and demultiplexer (TDDM), respectively.

3. (Original) The optical subscriber network system as claimed in claim 2,
wherein the communication data is received from a server computer.

4. (Currently Amended) The optical subscriber network system as claimed in
claim 1, wherein the server bi-directional optical transmitter transmits the upstream
communication data to ~~the~~ a server computer.

5. (Previously Presented) The optical subscriber network system as claimed in
claim 2, wherein the subscriber bi-directional optical receiver providing the
communication data divided by the TDDM to a subscriber-side computer.

6. (Currently Amended) An optical subscriber network system comprising:
a subscriber bi-directional optical receiver including:

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an Ethernet switch configured to (1) switch communication data transmitted from a demultiplexer to a subscriber computer, and (2) receive the communication data transmitted from the subscriber computer;

a first PHY device coupled to the demultiplexer to convert the communication data with a media independent interface type (MII type) into a TX signal;

a second PHY device to convert the TX signal into a MII signal for the Ethernet switch, and to convert a MII signal from the Ethernet switch into a TX signal for to the subscriber laser diode; and

a third PHY device for converting the MII signal into a multi level transmit-3 (MLT-3) signal

wherein, the TX signal output from the second PHY device is used to operate the first PHY device;

a subscriber photo diode to for receiving and converting the optical signal transmitted from the computer server into an electrical signal, and

wherein the optical receiver is configured for receiving image signals and Ethernet communication signals by a single photo diode.

7. (Canceled).

8. (Previously Presented) The optical subscriber network system as claimed in claim 5, wherein the subscriber bi-directional optical receiver comprises:

an Ethernet switch to (1) switch the communication data from the demultiplexer to a subscriber-side computer, and (2) receive the communication data from the

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subscriber computer; and

a third PHY device coupled to the demultiplexer to convert the communication data with a MII type into a TX signal for the Ethernet switch, and convert a MII signal from the Ethernet switch into a TX signal for the subscriber laser diode,

wherein, the TX signal from the Ethernet switch is used to operate the third PHY device.

9. (Previously Presented) The optical subscriber network system as claimed in claim 5, wherein the first PHY device converts a 100 Base-T optical fiber signal into a MII signal, and the second PHY device converts a media independent interface (MII) signal into a multi level transmit-3 (MLT-3) signal.

10. (Original) The optical subscriber network system as claimed in claim 5, wherein the TDM inserts a plurality of broadcast data streams and communication data into time slots and generates time slot frames.

11. (Currently Amended) The optical subscriber network system as claimed in claim 1, wherein subscriber bi-directional optical receiver further comprising:

a third PHY device to converting a media independent interface (MII) signal input from an Ethernet switch into a Fast Ethernet (FX) signal and output the FX signal to the subscriber laser diode.

12. (Previously Presented) The optical subscriber network system as claimed in

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claim 11, wherein the FX signal is a non return to zero inversion (NRZI) signal.